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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,824	12/27/2001	Ryan Samuel Buchert	I-2-206US	1453
24374	7590	11/28/2005	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			LEVITAN, DMITRY	
			ART UNIT	PAPER NUMBER
			2662	
DATE MAILED: 11/28/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/034,824	Applicant(s) BUCHERT ET AL.	
	Examiner Dmitry Levitan	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-7 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 4, 5-7 and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4, 6, 9, 11 limitations “the sorter elements SE1 to SEN and the adder operate in parallel” and claim 12 limitation “processing in parallel” are unclear because it is not understood if the parallel operation limitation is directed to the structure of the claimed device or simultaneous operation of the mentioned elements.

Claims 1, 5, 7 and 10 limitations “sequentially receiving the random values in parallel” are unclear as written.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 5,504,919).

Lee teaches a method for determining the most significant values of a set of random values (high-speed sorter on Fig. 2 and 3:30-39) comprising:

Sequentially processing the set of random values using a plurality of series connected sorter elements (series connected elements 40 on Fig. 2), each having a register which is initialized with a zero value (storage cells are initialized by a reset bus on Fig. 2) and each sorter element sequentially receiving the random values in parallel (all sorter elements connected to the input to receive the random values in parallel on Fig. 2);

For each received random value, the first sorter element compares the stored value to the received value and stores the received value if the received value is greater than the existing stored value (the first sorter 40, the sorter on the left of the system, performs sorting operation, comprising keeping the sorted elements which are greater than the input values 3:55-4:50);

For each received random value, the other sorter element compares the stored value to the received value and stores the received value if the received value is greater than the existing stored value, the new value being the random value, except when the sorter element determines that the received value is greater than the I-1 stored value and store the I-1 value (sorting operation comprising keeping the sorted elements which are greater than the input values and replacing the sorted elements which are less than or equal to the input items by the shift operation 3:55-4:50), whereby most significant values are stored in a descending order I registers after processing all the random values of the series (descending or ascending order 4:7-14).

Lee does not teach selecting predetermined number of N most significant values.

Art Unit: 2662

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add selecting predetermined number of N most significant values to separate the most important values from the least important values in the system of Lee.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 5,504,919) in View of Admitted Prior Art (Background [0001] – [0004]).

Lee teaches a sorter circuit for sorting a set of random values comprising a series of sorter elements (sorter circuit on Fig. 2, comprising sorter elements 40 3:30-39), each element comprising:

A register (storage cell on Fig. 2 and 3:30-39),

An input for receiving a random value for processing in parallel with the other elements (input On Fig. 2 coupled in parallel to the sorter elements 40), and

A register output (the storage cell output for providing data to the comparing unit on Fig. 2),

Said elements connected in series such that when one register receives a greater value than it has stored, that register stores that greater value, and that register and each downstream register pass their values to next successive downstream register (sorting operation comprising keeping the sorted elements which are greater than the input values and replacing the sorted elements which are less than or equal to the input items by the shift operation 3:55-4:50).

Lee does not teach the random values representing midamble tap sequence values. Admitted Prior Art teaches random values representing midamble tap sequence values (midamble containing a series of chips which, processed, produce a series of channel response taps representing signal and noise [0003]-[0004]).

Art Unit: 2662

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add random values representing midamble tap sequence values of Admitted Prior Art to the system of Lee to improve the system operation in noisy environment by separating the highest values taps as signals [0004] from lower value taps as noise.

### *Allowable Subject Matter*

7. Claims 1-6 and 10, 11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. Claims 8 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'DL' followed by a stylized name.

Dmitry Levitan  
Patent Examiner.  
11/16/05